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THE PREVENTION OF CONSUMPTION.

CONSUMPTION IS SPREAD, BY MEANS OF SPUTA, FROM MAN TO COWS; AND, BY MILK, FROM COWS TO MAN.

DISCUSSION FOLLOWING A PAPER ON ANIMALS' DISEASES DANGEROUS TO MAN, AT THE SANITARY CONVENTION HELD AT STANTON, IN APRIL, 1893.

[Reprinted from the proceedings of the Stanton Sanitary Convention, published as a supplement to the Annual Report of the Michigan State Board of Health for the year 1893.]

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Dr. Baker, Lansing: I wish to speak on the same subject as the gentleman who preceded me. The topic was broached by the reader of the paper, Mrs. Hinds. It seems to me that this is an exceedingly important point—the prevention of tuberculosis. Mrs. Hinds has said that the commission acts upon these dangerous communicable diseases when they are reported to the commission. There seems to be no provision in the law for an inspection of the animals around the State. If there were, I

imagine we should find the number of animals infected with tuberculosis would be very much in excess, perhaps, of all the other diseases put together. It seems to me that in this line of work we have done just what is usually done, we have commenced to work at the least important end. I want to suggest that it ought to be so that the Live Stock Sanitary Commission should be able to tell us what proportion of cows in this State supplying milk are afflicted with tuberculosis. And the importance of the question can be understood when we know that tuberculosis is the disease of all others that kills people here in Michigan. If you look at that diagram [on the wall] you will see that we lose 3,000 people in this State every year from consumption. Some of those who die of consumption contract the disease in other ways than by infected milk or meat, many are infected with the dust of the dried sputa that arises from the carpets and floors of halls like this, and other public places. But in the State of Massachusetts they have demonstrated the important fact that the milk of a tuberculous cow will convey tuberculosis even when the udder of the cow is not affected. And in Massachusetts the proportion of cows afflicted with tuberculosis is about four per cent—about four animals out of one hundred have this disease. I do not know whether there is any one in Stanton who keeps fifty cows, but if there is and the same proportion holds good here, two cows in that dairy give tuberculous milk, and that milk goes in with the milk of the other cows, and the whole mass of it is distributed around, all possibly being capable of communicating tuberculosis. It seems to me that it is an important thing to have this Live Stock Sanitary Commission; but I should say, give it the other blade of the scissors. It is now working under a very great disadvantage. There should be an inspector going around the State to find these animals, and the Live Stock Commission should have knowledge of these cows. The reason why nothing is being done to stamp out consumption is because but very few cases are reported to the commission. I happen to know that the State of Michigan has lost quite a number of cows in that way—destroyed by advice of the State Veterinarian. I may be telling tales out of school, I do not think Mrs. Hinds said anything about it.

Mrs. Hinds: Oh, no, you are not; go on.

Dr. Baker: One more point, we have discussed the subject of "animals' diseases communicable to man," I want to say a word about "dangerous diseases of man communicable to animals," and the chief disease in this class is this same disease, consumption. On the extreme left (referring to diagram) we see the bacillus of tuberculosis, fig. 1, page 26. I think it is a good thing to have this image of the germ of this disease clearly in mind. The germ of this disease is vegetable. It is reproduced in the lungs of any one who has consumption. It is spit out around in the back yard, and chickens eat it, and die with consumption. This fact has been demonstrated. The consumptive goes and takes care of the cows in the dairy, spits on the hay, feeds it to the animals, some of the animals contract the disease. If there were an inspector who went around and found every consumptive animal, and the Live Stock Commission destroyed every one of them today, how long would it last? Three thousand consumptive people in this State today are spitting all over the State. It is a vicious circle. We must cut the circle in two or three places before it is destroyed. You must not only destroy the consumptive animals, but we must teach the people not to infect the animals.

Dr. Gamber, Stanton: There is a good deal that might be said in

regard to this subject, but I wish to say a word in regard to tuberculosis. The bacilli which are the cause of this disease when taken into the stomach are destroyed by the healthy gastric juice in eighteen to thirty-six hours, but not soon enough every time to prevent them from sometimes infecting the system. I do not see any other way than to destroy the tuberculous animal, and not allow these germs to get into the stomach, or where they may be inhaled by the human system.

In regard to glanders, provision is made for the destruction of these animals. After they are killed they should be cremated or buried very deeply, but cremation is far preferable.

Another disease, anthrax, sometimes called malignant pustule, (see illustration of bacillus of anthrax, figure 11, page 27), which I think does not trouble the Live Stock Commission now, as Mrs. Hinds tells us that there are no cases in the State at the present time. In San Domingo, in 1770, 15,000 persons perished in six weeks from eating the bodies of animals dead of this disease. The bacillus of anthrax is famous as the first micro-organism demonstrated as the actual cause of an infectious disease. It is the longest known and best studied of all the micro-organisms. This bacillus contains spores, and the gastric juice does not destroy them at all; consequently when they are taken into the stomach, infection is infallible.

Mr. C. T. Wicks, Stanton: What is the effect of cooking the meat that is diseased in this way?

Dr. Gamber, Stanton: Thorough cooking of the meat of the animal dead of this disease is a sure preventive. It requires the boiling point, and if the piece of meat is large it requires thorough cooking so that it becomes heated entirely through, while the meat of tuberculous cattle requires a temperature of one hundred and sixty degrees F. to destroy the germs.

Mr. C. T. Wicks: Would it also destroy germs in milk?

Dr. Gamber: Yes.

Rev. W. C. Burns, Stanton: Would you recommend boiling the milk?

Dr. Gamber: Yes, unless you are very certain that it contains none of these germs. All of these germs that we have been talking about are destroyed by thorough boiling.

One more disease I wish to mention is rabies, or, in the human species, hydrophobia. There are a few points it is well to understand in regard to this disease. The period of incubation after a dog or person is bitten by a rabid animal is on the average from 30 to 50 days, and sometimes it may be from 6 to 240 days, so that we do not know exactly what the time will be in any given instance. This fact should be borne in mind when any person is bitten by one of these rabid animals, for during the time that might transpire before the breaking out of the disease the wound may entirely heal up, and later break out again. We also know that when a man has this disease he is afraid of water, it is entirely different with dogs, they like it.

In countries where they have had the disease among the people they have stamped it out entirely by muzzling the dogs.

Rev. H. E. W. Palmer, Stanton: What about the Frenchman's cure of this disease?

Dr. Gamber: It is recognized as being one of the best at the present day. It is thought that something better has been discovered by an old

P3633

1783

Italian physician, Eusebio Valli, but they have not yet tried it upon man. The Frenchman you have reference to is M. Pasteur. He has labored for years and has not yet been able to discover the germ that causes this disease. It is thought that this poison does not enter the blood, but extends along the course of the nerves until it gets to the brain, and the time it takes to get there, the period of incubation, depends upon the location of the wound; if the wound is in one of the extremities it takes longer to reach the brain, and the period that follows when it once reaches there we divide into three stages: the melancholic, the spasmodic, and the paralytic. It takes 5 or 6 days for these three stages to close the scene with death.

Dr. Baker, Lansing: I left off the point of my remarks, in one respect, relative to one part of the "vicious circle" I spoke of. It is a very simple thing, but it is a very important one, that is to disinfect all sputa, and especially all sputa of all consumptive persons. Not only consumption is spread by sputa, but most of the throat and lung diseases are spread in that manner. It is a simple thing to disinfect or destroy all sputa, and that should be done.